<center>**Remarks**</center>

Claims 1-43 are pending in this application. Claims 1-42 are original and Claim 43 is previously presented.

It is the position of the Applicant that the finality of the current Office Action is improper because arguments made by the Applicant in the Response to Office Action filed April 3, 2007 were not responded to by the Examiner in the Final Office Action. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply.*" Further, "[i]n making the final rejection, all outstanding grounds of rejection of record should be carefully reviewed, and any such grounds relied on in the final rejection should be reiterated. *They must also be clearly developed to such an extent that applicant may readily judge the advisability of an appeal . . .*"(emphasis added) MPEP §706.07, Statement of Grounds.

The Final Office Action does not include rebuttal of several of the arguments raised by the Applicant and is, therefore, improper. Some, but not all, of these arguments are presented again in this response.

Claims 1-9 and 11-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fletcher et al. (2002/0178238) in view of Vishin et al. (5,860,146). The Applicant traverses these rejections.

Regarding Claim 1,

Claim 1 recites:

1. (Original) A caching server comprising:
  an answer cache configured to access answer information through a flat data
    structure;
  a referral cache configured to store referral information; and
  computer instructions configured to translate a domain name into DNS
    information by examining the answer cache and, responsive to the results
    of examining the answer cache, examining the referral cache.

The Examiner repeated the rejection of Claim 1 presented in the Office Action of November 16, 2006. In rejecting Claim 1, the Examiner admits that Fletcher does not teach an answer cache having a flat data structure. Rather, the Examiner suggests that Vishin teaches these elements of Claim 1, specifically that the "remote translation lookaside buffer (RTLB)" of Vishin is "similar to" and thus teaches the *"answer cache"* of Claim 1. The Examiner further suggests that "[b]y using the hash table, (i.e. the flat data structure) in answer cache as taught by Vishin, it reduces the number of memory accesses and as a result of that, it is faster than the lookup in the tree structure." Page 3. The Applicant continues to traverse these suggestions.

First, the Applicant maintains the position that the RTLB 160 of Vishin does not teach the *"answer cache"* of Claim 1 and, as such, even in combination the cited art does not teach all of the limitations of Claim 1, as required for a rejection under §103(a).

A prima facie case for rejection under §103(a) requires that the prior art reference (or references when combined) teach or suggest all the claim limitations. (In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03.)

At pages 10-11 of the Response to Office Action filed April 3, 2007, the Applicant argued:

> The RTLB 160 of Vishin is a table of partial physical memory addresses used to translate a physical memory address into a remote physical memory address, (Vishin Col. 4 lines 42-62). In contrast, the *"answer cache"* recited in Claim 1 is *"an answer cache configured to access answer information through a*

flat data structure." One of ordinary skill in the art would understand "*answer information*" to include, for example, an Internet Protocol (IP) address provided in response to DNS request. One of ordinary skill would not expect "answer information" as received from an "answer cache" to include "a remote physical memory address." An IP address and a physical memory address are fundamentally different non-interchangeable things. Specifically, a physical memory address is a hardware address of a memory location within a memory device, while an IP address is an address used by network elements to communicate data packets according to IP standards. A physical memory address could not be used in place of an IP address, and does not appear to be provided as an answer to a DNS request. As such, the RTLB of Vishin is not equivalent to the "*answer cache*" recited in Claim 1.

Therefore, even if the teachings of Fletcher were modified to include the RTLB of Vishin, these combined teachings would not include an "*answer cache*" as recited in Claim 1, and Claim 1 is not anticipated by the cited art.

The Examiner responded to this argument by stating that "Vishin, however, does teach that the RTLB 160 is a buffer which stores (address) information in [a] flat data structure." Page 9.

The Applicant maintains that Vishin does not appear to teach a "hash table" or other flat data structure. Response to Office Action filed April 3, 2007, pages 13 and 18. The Applicant has reviewed the portions of Vishin previously cited by the Examiner, notably the abstract and FIG. 5, as well as the rest of the patent and is still unable to identify a hash table or other flat data structure in the cited reference. The Applicant, therefore, repeats the request that the Examiner specifically point out a teaching that the RTLB 160 of Vishin is a "hash table" or allow Claim 1 and those claims that depend therefrom.

Second, it is still the position of the Applicant that the combination suggested by the Examiner does not have a reasonable expectation of success, as required for a rejection under §103(a).

A prima facie case for rejection under §103(a) requires a reasonable expectation of success. (In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03.)

At page 12 of the Response to Office Action filed April 3, 2007, the Applicant argued:

> As recited in lines 5-7 of Claim 1, the *"answer cache"* of Claim 1 can be examined by computer instructions to *"translate a domain name into DNS information."* It is unclear to the Applicant how the RTLB 160 of Vishin could be used to translate a domain name into DNS information. As such, the proposed combination does not appear to have a reasonable expectation of success. The Applicant, therefore, requests that the Examiner explain how a table of partial physical memory addresses intended for use in translating a physical memory address into a remote physical memory address, could be used to *"translate a domain name into DNS information,"* as recited in Claim 1, or allow Claim 1 and those claims that depend therefrom.

The Examiner responded to this argument by stating that "Fletcher does teach that computer instruction configured to translate a domain name into DNS information by examining the answer cache." Page 9.

The Applicant maintains that it is unclear as to how the RTLB 160 of Vishin can be used to translate a domain name into DNS information. As admitted by the Examiner, "Fletcher teaches all limitations of claim 1 except for the clarification that the answer cache stored answer information in a flat data structure." Page 9. Thus, because the Examiner has merely relied on the purported teaching in Vishin of a hash table as evidence of teaching "an answer cache configured to access answer information through a **flat data structure**" (emphasis added), the Examiner has not meaningfully addressed the Applicant's argument that it is "unclear to the Applicant how the RTLB 160 of Vishin could be used to translate a domain name into DNS information." Response to Office Action filed April 3, 2007, page 12.

At pages 12-14 of the Response to Office Action filed April 3, 2007, the

Applicant argued:

Third, in combining the teachings of Fletcher and Vishin, the Examiner appears to be doing more than merely combining elements, e.g., the Examiner is doing more than modifying Fletcher by addition of an element taught in Vishin. Specifically, the Examiner appears to be suggesting that the teachings of Vishin be changed substantially in manners unsupported by either reference in order to fit the needs of the Examiner's rejection, and that these changed teachings be added to Fletcher. While the combination of elements may be reasonable under §103(a), making substantial modifications to these elements, without support or suggestion from the specification of either, in order for these elements to function together is not proper.

Fourth, it is the position of the Applicant that the motivation to combine the cited art that is suggested by the Examiner does not meet the requirements of §103(a).

A prima facie case for rejection under §103(a) requires some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. (In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03.)

As a motivation to combine the cited art, the Examiner states, "[b]y using the hash table (i.e. the flat data structure) in answer cache as taught by Vishin, it reduces the number of memory accesses and as a result of that, it is faster than the lockup in the tree structure."

The Applicant traverses the Examiner's statement on the grounds that Vishin does not appear to teach a "hash table." The Applicant is unable to find any teaching within Vishin that the RTLB 160 is a "hash table." Since Vishin does not teach the use of a "hash table," any speed advantage that could theoretically be achieved therefrom cannot provide the basis for combining Fletcher and Vishin. The Applicant, therefore, requests that the Examiner specifically point out a teaching that the RTLB 160 of Vishin is a "hash table" or allow Claim 1 and those claims that depend therefrom. Further discussion regarding the lack of teaching in Vishin of a "hash table" is made below with respect to Claim 2.

Further, the Applicant is unable to find any support within the cited art that use of the RTLB table of Vishin "reduces the number of memory accesses" as suggested by the Examiner. To the contrary, the use of a table for translating a physical memory address would appear to result in a greater number of memory accesses because the RTLB table must be accessed first, rather than accessing the physical memory directly. The Applicant, therefore, requests that the Examiner provide support for this suggestion or allow Claim 1 and those claims that depend therefrom.

Fifth, the Examiner does not provide any evidence that the suggested motivation would be known to one of ordinary skill in the art at the time of the

invention. Rather, the Examiner appears to have defined a problem (lacking a hash table) in terms of its solution (adding a hash table). As stated in In re Beattie, 974 F.2d 1309, 1312 (Fed. Cir. 1992) "[d]efining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness." The Applicant, therefore, requests that the Examiner provide either a motivation to combine the cited art from within the cited art or other evidence that the suggested motivation would be known to one of ordinary skill in the art at the time of the invention.

The Examiner responded to these three arguments by stating that "The motivation for the rejection is found in the knowledge generally available to one of ordinary skill in the art." Page 9.

The Applicant respectfully refers the Examiner to the Memorandum of May 3, 2007 by Margaret A. Focarino to the Technology Center Directors regarding the "Supreme Court decision on KSR Int'l Co., v. Teleflex, Inc." In the memorandum, Ms Focarino concludes, "Therefore, in formulating a rejection under 35 U.S.C. §103(a) based upon a combination of prior art elements, it remains necessary to identify **the reason why** a person of ordinary skill in the art would have combined the prior art elements in the manner claimed." Page 2 (emphasis added). As has been held by the Courts, "to establish a prima facie case, the USPTO may not rely on unsupported assertions about the level of ordinary skill in the art or bare conclusions that one of ordinary skill could apply such skill to obtain the claimed invention." In re Sun, 31 USPQ2d 1451, 1456 (Fed. Cir. 1994)(Mayer, J. concurring).

The Applicant respectfully avers that a motivation "found in the knowledge generally available to one of ordinary skill in the art," does not meet the threshold requirement to provide a prima facie case for a rejection under 35 U.S.C. §103(a) according to current practice. More specifically, the Examiner has not provided **a reason**

why the knowledge generally available to one of ordinary skill in the art would motivate such a person to make the proposed combination.

Sixth, it is still the position of the Applicant that the rejection under §103(a) is improper because the cited references are in substantially different fields of art, and as such one of ordinary skill in the art of the invention would not look to combine the features of Vishin with those of Fletcher.

In In re Oetiker, it was held that "the combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a prima facie case of obviousness." 977 F.2d at 1447.

Further, MPEP §2141.01(a) provides that "[t]he examiner must determine what is 'analogous prior art' for the purpose of analyzing the obviousness of the subject matter at issue. In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

At page 15 of the Response to Office Action filed April 3, 2007, the Applicant argued:

> The claimed invention is in the field "network communications," (Application as filed, paragraph [0001]), and more specifically some claimed embodiments are in the fields of Internet Protocol and Domain Name Systems. In contrast, Vishin relates to "virtual memory management subsystems, and particularly to a memory controller that manages access to remote physical addresses," (Col. 1 lines 6-8). The Applicant maintains that the fields of network communications and virtual memory management are substantially different. The first deals with long range software managed communications, while the second deals with physically managed local memory access. It is, therefore, the position of the applicant that the one of ordinary skill in the art of network

communications would not look to the teachings of Vishin to modify the teachings of Fletcher.

As has been held by the Courts, "to establish a prima facie case, the USPTO may not rely on unsupported assertions about the level of ordinary skill in the art or bare conclusions that one of ordinary skill could apply such skill to obtain the claimed invention." In re Sun, 31 USPQ2d 1451, 1456 (Fed. Cir. 1994)(Mayer, J. concurring). The Applicant, therefore, requests that the Examiner provide evidentiary support for the suggestion that one of ordinary skill in the art of the invention would look to Vishin to modify Fletcher, or allow Claim 1 and those claims that depend therefrom.

In response, the Examiner asserts that "the Vishin prior art discloses about translating address information and, therefore, can be used in the Fletcher prior art to translate and store the address information in the flat data structure as suggested by Vishin." Page 10.

However, as discussed above, the Applicant maintains that the addresses disclosed in Fletcher and the present application are substantially different from those disclosed in Vishin. The addresses described in the present application and in Fletcher are IP addresses associated with a device on a communications network. See, e.g., Fletcher [0005] and Specification [0002]. In contrast, the addresses described by Vishin are stored in "a primary translation lookaside buffer for . . . translating virtual addresses into physical address, local memory coupled to the data processor . . . and remotely located memory coupled to the data processor by a computer network." Abstract. Thus, the Applicant, again requests that the Examiner provide evidentiary support for the suggestion that one of ordinary skill in the art of the invention would look to Vishin to modify Fletcher, or allow Claim 1 and those claims that depend therefrom.

Regarding Claims 11, 13, 17, 26, 34 and 38-39,

In rejecting Claims 11, 13, 17, 26, 34 and 38-39 the Examiner repeats his statement that these claims "are also rejected based on the same rationale as the rejection of claim 1." However, the Applicant respectfully points out that Claims 11, 13, 17, 26,

34 and 38-39 include numerous limitations not included in Claim 1 and still not addressed by the Examiner as pointed out previously. The Examiner is reminded that the cited art must include all limitations of each claim in order to establish a prima facie case for rejection under §103(a).

More specifically, at page 16 of the Response to Office Action filed May 12, 2006, the Applicant argued:

> **Claim 11** is directed toward
>> *a computer readable medium having stored thereupon computer code comprising:*
>> ...
>> *a code segment configured to examine a first cache to find the DNS information, the first cache including a flat data structure and configured to store the DNS information or a pointer to the DNS information; and*
>> *a code segment configured to initiate a search of a second cache if the DNS information is not found by examining the first cache, the second cache configured to store data referring to further locations on a computer network wherein the DNS information may be found.*
>
> These are limitations not included in Claim 1 and do not appear to be taught by the cited art even in combination. For example, the cited art does not appear to teach *"the first cache including a flat data structure and configured to store the DNS information or a pointer to the DNS information."* Further, the cited art does not appear to teach *"a code segment configured to initiate a search of a second cache if the DNS information is not found by examining the first cache, the second cache configured to store data referring to further locations on a computer network wherein the DNS information may be found."* The Applicant, therefore, requests that the Examiner specifically point out these teachings within the cited art or allow Claim 11 and those claims that depend therefrom.

The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in*

the applicant's reply," the Applicant further requests that the Examiner withdraw the finality of the present office action.

More specifically, at pages 16-17 of the Response to Office Action filed May 12, 2006, the Applicant argued:

> **Claim 13** recites, in part, "*means for examining a first cache to find the DNS information,*" and "*means for searching a second cache ... the second cache configured to store data referring to further locations on the computer network wherein the DNS information may be found.*" These limitations are not included in Claim 1 and do not appear to be taught by the cited art. For example, the cited art does not teach both a first cache that can be examined to find "*DNS information*" in combination with "*a second cache configured to store data referring to further locations on the computer network wherein the DNS information may be found.*" The Applicant, therefore, requests that the Examiner specifically point out these teaching within the cited art or allow Claim 13 and those claims that depend therefrom.

The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply*," the Applicant further requests that the Examiner withdraw the finality of the present office action.

At page 17 of the Response to Office Action filed May 12, 2006, the Applicant argued:

> **Claim 17** recites, in part, "*a caching server including a first data structure configured for translating the domain name into DNS information, and means for examining the first data structure in a time that is essentially constant as a function of a number of labels comprising the domain name.*" These limitations are not included in Claim 1 and do not appear to be taught by the cited art. For example, the cited art does not appear to teach "*means for examining the first data structure in a time that is essentially constant as a function of a number of labels comprising the domain name.*" The Applicant, therefore, requests that the

Examiner specifically point out these teaching within the cited art or allow Claim 17 and those claims that depend therefrom.

The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply*," the Applicant further requests that the Examiner withdraw the finality of the present office action.

Claims 26 and 34 are believed to be allowable for at least the same reasons as Claim 1. The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply*," the Applicant further requests that the Examiner withdraw the finality of the present office action.

At pages 17-18 of the Response to Office Action filed May 12, 2006, the Applicant argued:

> **Claims 38 and 39** recite "*wherein the answer cache is configured to store answer information and the referral cache is configured to store referral information.*" These limitations are not included in Claim 1 and do not appear to be taught by the cited art. Specifically, Claim 1 does not teach "*the answer cache is configured to store answer information and the referral cache is configured to store referral information.*" As pointed out elsewhere herein, those features of Vishin that the Examiner suggests teaches "*the answer cache*" is taught to include "physical addresses" and not "*answer information,*" as recited in Claims 38 and

39. The Applicant, therefore, requests that the Examiner specifically point out these teaching within the cited art or allow Claims 38 and 39.

The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply,*" the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding Claim 2,

At page 18 of the Response to Office Action filed April 3, 2007, the Applicant argued:

> Claim 2 recites:
> 2. (Original) The caching server of claim 1, wherein the flat data structure is a hash table.
>
> In rejecting Claim 2, the Examiner states "Vishin teaches that the flat data structure is a hash table (i.e. 122 in Fig. 5)(e.g. see the abstract and Fig. 5)." The Applicant traverses this statement. First, the Applicant is unable to identify any teaching in Vishin that the RTLB 160 includes a hash table. To the contrary, as illustrated in Vishin FIG. 6, the RTLB 160 is taught to include an index column (labeled "index) having a sequential series of numbers (labeled "0 … 31). Thus, even if one were to assume for the sake of argument that the RTLB 160 of Vishin was a flat data structure, this flat data structure is clearly not a hash table.

The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in*

the applicant's reply," the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding Claims 25, 29 and 35, the Applicant believes that Claims 25, 29, and 35 are allowable for at least the same reasons as Claim 2, and those claims from which they depend. The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply*," the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding Claim 19, the Applicant believes that Claim 19 is allowable for at least the same reasons as Claims 1, 2 and 13. The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply*," the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding Claim 3,

At pages 18-20 of the Response to Office Action filed April 3, 2007, the Applicant argued:

Claim 3 recites:

3. (Original) The caching server of claim 1, wherein the flat data structure includes pointers to a tree data structure.

In rejecting Claim 3, the Examiner states "Fletcher teaches that when the requested address information is not found at the terminal, the query from the local host is forwarded to the communication network (i.e. see paragraph [0008]). Therefore, the pointer/link has to be inherently stored/present in the local terminal cache that points to the remote host for the requested information." The Applicant traverses this statement.

MPEP §2112 provides that "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic" citing *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). Thus, a mere possibility is insufficient to show inherency. Further, "[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic <u>necessarily flows</u> from the teachings of the applied prior art" citing Ex *parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

The Applicant respectfully points out that the system of Vishin is a hardware based system in which communication can take place purely based on hardwired connections such as the "Match Signals" and "Filter Selector 164" illustrated in FIG. 6 of Vishin. It is, therefore, not inherent that the RTLB 160 of Vishin, which the Examiner suggests teaches an answer cache, include pointers as recited in Claim 13.

Further, even if for the sake of argument, it were assumed that the RTLB 160 of Vishin included a pointer, there does not appear to be any teaching of "DNS information" in Vishin, much less that these hypothetical pointers point to DNS information. To the contrary, as shown in FIG. 6 of Vishin, the entries in the RTLB 160 are coupled to RPPA entries in SRAM 166. Vishin does not appear to include any suggestion that these RPPA entries include DNS information. The Applicant, therefore, requests that the Examiner specifically point out a teaching within Vishin that RTLB 160 includes "DNS information or a pointer to the DNS information" as recited in Claim 3, or allow Claim 3.

In rejecting Claim 3, the Examiner further states "Fletcher teaches the further limitation of pointers pointing to a tree data structure (e.g. see paragraph [0005])." However, the Applicant respectfully points out that Claim 3 recites that the "flat data structure includes pointers to a tree data structure" and the Examiner is citing Vishin, not Fletcher, as teaching the "flat data structure." Specifically, the Examiner cites the RTLB 160 of Vishin as teaching the flat data structure of Claim 13, and the RTLB 160 is not taught to include "pointers to a tree data structure." The Applicant, therefore, requests that the Examiner specifically point out a teaching that the RTLB 160 of Vishin includes "a pointer to a tree data structure," or allow Claim 3.

The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply*," the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding Claims 5, 20-23 and 27-28, at pages 20-21 of the Response to Office Action filed April 3, 2007, the Applicant argued:

> the Examiner states that "Claims 5, 20-23 and 27-28 are also rejected based on the same rationale as the rejection of claim 3." The Applicant traverses these rejections and respectively points out that Claims 5, 20-23 and 27-28 include numerous limitations not found in Claim 3, or Claim 1 from which Claim 3 depends. As such, the Examiner does not appear to have addressed these limitations as required for a proper rejection under §103(a).
>
> Specifically, Claim 5 recites "*wherein the flat data structure includes pointers to a tree data structure, and the tree data structure is included in the referral cache.*" The Applicant requests that the Examiner specifically point out a teaching of a flat data that includes pointers to a tree data structure in a referral cache or allow Claim 5.
>
> Specifically, Claim 20 recites "*wherein the hash table is configured to store the pointer to the answer information.*" The Applicant requests that the Examiner specifically point out a teaching of a hash table configured to store a pointer to answer information, or allow Claim 20.
>
> Specifically, Claim 23 recites "*wherein the tree data structure is configured to store pointers to referral data.*" The Applicant requests that the Examiner specifically point out a teaching of a tree data structure configured to store pointers to referral data, or allow Claim 23.
>
> Specifically, Claim 27 recites "*wherein the flat data structure is configured to store the answer information.*" The Applicant requests that the Examiner specifically point out a teaching of a flat data structure configured to store answer information, or allow Claim 27.
>
> Specifically, Claim 28 recites "*wherein the flat data structure is configured to store a pointer to the answer information.*" The Applicant requests that the Examiner specifically point out a teaching of a flat data structure configured to store pointers to answer information, or allow Claim 28.

The Applicant believes that Claims 21 and 22 are allowable for at least the same reasons as Claim 19, from which they depend.

The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply*," the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding Claim 4,

At pages 21-22 of the Response to Office Action filed April 3, 2007, the Applicant argued:

> Claim 4 recites:
> 4. (Original) *The caching server of claim 1, wherein the flat data structure includes pointers to a tree data structure, and the tree data structure is configured to store answer information and referral information.*
>
> In rejecting Claim 4, the Examiner states "Fletcher teaches that the tree data structure (i.e. the hierarchical structure) is configured to store answer information and referral information (e.g. see paragraphs [0005]-[0006]." The Applicant traverses this statement.
> In the combination suggested by the Examiner, it appears that the flat data structure is suggested as being taught by the RTLB 160 of Vishin, however, the RTLB 160 of Vishin is not taught to include pointers to a tree data structure, much less a tree data structure "*configured to store answer information and referral information*," as recited in Claim 4. As discussed above the RTLD 160 of Vishin is taught to include information for translating remote physical memory addresses. The Applicant, therefore, requests that the Examiner specifically point out a teaching that the RTLB 160 of Vishin includes pointers to a tree data structure and that that tree data structure includes "*answer information and referral information*," or allow Claim 4.

The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any

subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office

Action contains a complete statement of a ground of rejection, the final rejection may

refer to such a statement and also *should include a rebuttal of any arguments raised in*

the applicant's reply," the Applicant further requests that the Examiner withdraw the

finality of the present office action.

Regarding Claims 7, 8, 9, 31 and 41 the Applicant believes that Claims 7, 8, 9,

31 and 41 are allowable for at least the same reasons as those claims from which they

depend. The Examiner does not appear to have responded to these arguments in the Final

Office Action. The Applicant requests that Examiner respond to these arguments in any

subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office

Action contains a complete statement of a ground of rejection, the final rejection may

refer to such a statement and also should include a rebuttal of any arguments raised in the

applicant's reply," the Applicant further requests that the Examiner withdraw the finality

of the present office action.

Regarding Claims 12, 16, 18, 24, 32 and 42, the Applicant believes that Claims

12, 16, 18, 24, 32 and 42 are allowable for at least the same reasons as those claims from

which they depend. The Examiner does not appear to have responded to these arguments

in the Final Office Action. The Applicant requests that Examiner respond to these

arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single

previous Office Action contains a complete statement of a ground of rejection, the final

rejection may refer to such a statement and also should include a rebuttal of any

arguments raised in the applicant's reply," the Applicant further requests that the

Examiner withdraw the finality of the present office action.

Regarding Claims 14 and 15,

At pages 22-24 of the Response to Office Action filed April 3, 2007, the

Applicant argued:

Claim 14 recites:
14. (Original) The computer network of claim 13, further including means for storing data in the first cache such that a time required to examine the first cache is essentially constant as a function of a number of labels comprising the domain name.

Claim 15 recites:
15. (Original) The computer network of claim 13, further including means for storing data in the first cache such that a time required to examine the first cache is essentially constant as a function of a size of the first cache.

In rejecting Claims 14 and 15, the Examiner states:
Fletcher teaches means for storing data in the first cache such that a time required to examine the first cache is essentially constant as a function of a number of labels comprising the domain name, i.e. the first cache is the local cache, which uses the flat data structure and since the number of cache entries to search in this flat data structure local cache is fixed/constant as a function of (i) a number of labels comprising the domain name and (ii) a size of the first/local cache (e.g. see paragraph [0008]).

The Applicant traverses this statement.

First, in the rejection of Claim 1 the Examiner admits that Fletcher does not teach an answer cache configured to store data in a flat data structure. This admission appears to be directly contradictory to the above statement made in rejecting Claims 14 and 15. The Applicant agrees that Fletcher does not teach a flat data structure. The Applicant, therefore, requests that the Examiner withdraw the rejections of Claims 14 and 15.

Second, even assuming for the sake of argument that Fletcher taught a flat data structure, there is no indication that such a data structure would have a structure that satisfies the conditions that *"a time required to examine the first cache is essentially constant as a function of a number of labels comprising the domain name"* or *"a time required to examine the first cache is essentially constant as a function of a size of the first cache,"* as recited in Claims 14 and 15, respectively. The Applicant respectively points out that these are <u>not</u> normal characteristics of flat data structures. To the contrary, one of ordinary skill in the art would expect that a time required to search a flat data would grow linearly with the size of the cache. The Applicant, therefore, requests that the Examiner specifically point out how Fletcher teaches these limitations of Claims 14 and 15, or allow Claims 14 and 15.

The Applicant further believes that Claims 14 and 15 are allowable for at least the same reasons as Claim 13, from which they depend.

The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply*," the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding Claim 30, the Applicant believes that Claim 30 is allowable for at least the same reasons as Claims 14, 15 and Claim 26 from which it depends. The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also should include a rebuttal of any arguments raised in the applicant's reply," the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding Claim 33 and 36,

At pages 24-25 of the Response to Office Action filed April 3, 2007, the Applicant argued:

> Claim 33 recites:
> *33. (Original) A method of storing data in a cache, the method comprising:*
> *requesting DNS information;*
> *receiving data in response to the request;*
> *classifying the response received; and*

> *storing the data received in either a referral cache or an answer cache based on the classification.*

In rejecting Claims 33 and 36, the Examiner states "Fletcher teaches … requesting DNS information; receiving data in response to the request; classifying the response received; and storing the data received in either a referral cache or an answer cache based on the classification (e.g. see paragraphs [0005] and [0008])." The Applicant traverses this statement.

The Applicant has reviewed Fletcher, and in particular those paragraphs cited by the Examiner, however, the Applicant is unable to identify any teaching of "*classifying the response received; and storing the data received in either a referral cache or an answer cache based on the classification,*" as recited in Claim 33. The Applicant, therefore, requests that the Examiner specifically point out teaching of these limitations within the cited art, or allow Claims 33, 36 and those claims that depend therefrom.

The Applicant believes that Claim 36 is allowable for at least the same reasons as Claim 33 from which it depends.

The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also *should include a rebuttal of any arguments raised in the applicant's reply,*" the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding Claim 37, the Applicant believes that Claim 37 is allowable for at least the same reasons as Claim 33 from which it depends. The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also should

include a rebuttal of any arguments raised in the applicant's reply," the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding Claim 40, the Applicant believes that Claim 40 is allowable for at least the same reasons discussed herein with respect to Claims 1 and 33. The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also should include a rebuttal of any arguments raised in the applicant's reply," the Applicant further requests that the Examiner withdraw the finality of the present office action.

Regarding claim 43,

Claim 43 recites,

> *43. (Previously Presented) The caching server of claim 1, wherein the referral cache is separate from the answer cache.*

In rejecting claim 43, the Examiner admits that neither Fletcher nor Vishin "clearly disclose that the referral cache is separate from the answer cache." Page 7. The Examiner asserts that:

> having multiple caches in a system/server is well known and notorious old in the art. For example, the processor performance increases by having a separate instruction and data cache in a processor. Similarly, it would have been obvious to one of ordinary skills in the art at the time of the current invention was made to keep the answer and referral cache separate to achieve the higher performance of the server.

Page 7.

A prima facie case for rejection under §103(a) requires some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. (In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03.)

As has been held by the Courts, "to establish a prima facie case, the USPTO may not rely on unsupported assertions about the level of ordinary skill in the art or bare conclusions that one of ordinary skill could apply such skill to obtain the claimed invention." In re Sun, 31 USPQ2d 1451, 1456 (Fed. Cir. 1994)(Mayer, J. concurring).

"To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." (*Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). See MPEP §2142).

The Examiner asserts that having "a separate instruction and data cache in a processor" to increase processor performance is well known. It is unclear to the Applicant as to how having a separate instruction cache and a separate data cache in a processor could be used to separate an answer cache from a referral cache in the caching server of claim 43. As such, the proposed combination does not appear to have a reasonable expectation of success. The Applicant, therefore, requests that the Examiner explain how a processor having a separate instruction and data cache could be used to

increase performance in a caching server "wherein the referral cache is separate from the answer cache" as recited in claim 43, or allow claim 43.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fletcher in view of Vishin, further in view of Ramanathan (6,182,136).

Regarding Claim 10, the Applicant believes that Claim 10 is allowable for at least the same reasons as Claim 1, from which it depends. The Examiner does not appear to have responded to these arguments in the Final Office Action. The Applicant requests that Examiner respond to these arguments in any subsequent rejection. Pursuant to MPEP §706.07, "where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also should include a rebuttal of any arguments raised in the applicant's reply," the Applicant further requests that the Examiner withdraw the finality of the present office action.
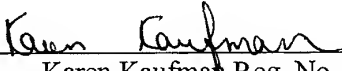
Further, it is the position of the Applicant that the finality of the current Office Action is improper because arguments made by the Applicant in the Response to Office Action filed April 3, 2007 and discussed above were not responded to by the Examiner in the Final Office Action.

The Applicant respectfully requests that the Examiner contact the Applicant's representative to schedule a teleconference regarding the current rejections of claims 1-43. The Applicant believes that a teleconference will be helpful in clarifying the distinctions between the references cited by the Examiner and the invention as claimed.

Applicant believes that all pending claims are allowable and respectfully requests that the Examiner issue a Notice of Allowance. Should the Examiner have questions, the Applicant's undersigned representative may be reached at the number provided.

Respectfully submitted,

Andreas Gustafsson

Date: <u>August 8, 2007</u>

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